ATLIQ HARDWARE

30-01-2024

Resume Project #4

AtliQ hardware

MySQL Challenge

About the Company

- Atliq Hardwares (imaginary company) is one of the leading computer hardware producers in India and well expanded in other countries too.

- However, the management noticed that they do not get enough insights to make quick and smart data-informed decisions.

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Atliq Exlusive customers

Request #1

Provide the list of markets in which customer "Atliq Exclusive" operates its business in the APAC region.

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request_1.sql

```sql
SELECT DISTINCT(market)
FROM dim_customer
WHERE region = 'APAC' and
customer = 'Atliq Exclusive';
```

market
India
Indonesia
Japan
Philiphines
South Korea
Australia
Newzealand
Bangladesh

Insights

- The countries where the customer is '**Atliq Exclusive**' are India, Indonesia, Japan, Philiphines, South korea, Australia, New Zealand and Bangladesh

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Percentage increase: 2020 vs 2021

Request #2

What is the percentage of unique product increase in 2021 vs. 2020? The final output contains these fields,
unique_products_2020
unique_products_2021
percentage_chg

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request_2.sql

```sql
WITH unique_products AS
(
  SELECT
  COUNT(DISTINCT CASE WHEN fiscal_year = 2020 THEN product_code END)
   as unique_products_2020,
  COUNT(DISTINCT CASE WHEN fiscal_year = 2021 THEN product_code END)
  as unique_products_2021
  FROM fact_sales_monthly

)
SELECT unique_products_2020, unique_products_2021,
CONCAT(ROUND(((unique_products_2021-unique_products_2020)
*1.0/unique_products_2020)*100,2),'%') AS percentage_chg
FROM unique_products;
```

unique_products_2020	unique_products_2021	percentage_chg
245	334	36.33%

Insights

- The unique products in fiscal year 2020 were 245 and there were increased to 334 in fiscal year 2021 with the increase in percentage of **36.33%**

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Seqment count across products

Request #3

Provide a report with all the unique product counts for each segment and sort them in descending order of product counts. The final output contains 2 fields,
segment
product_count

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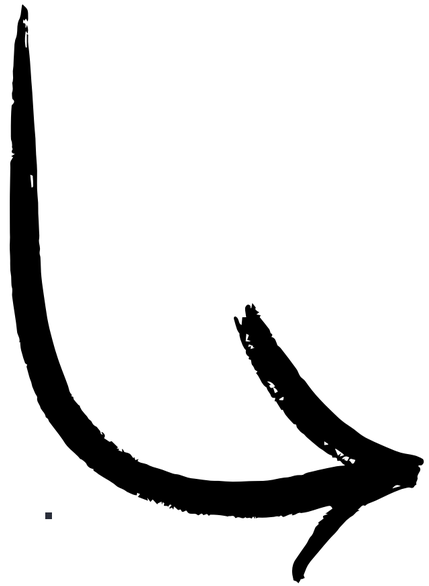
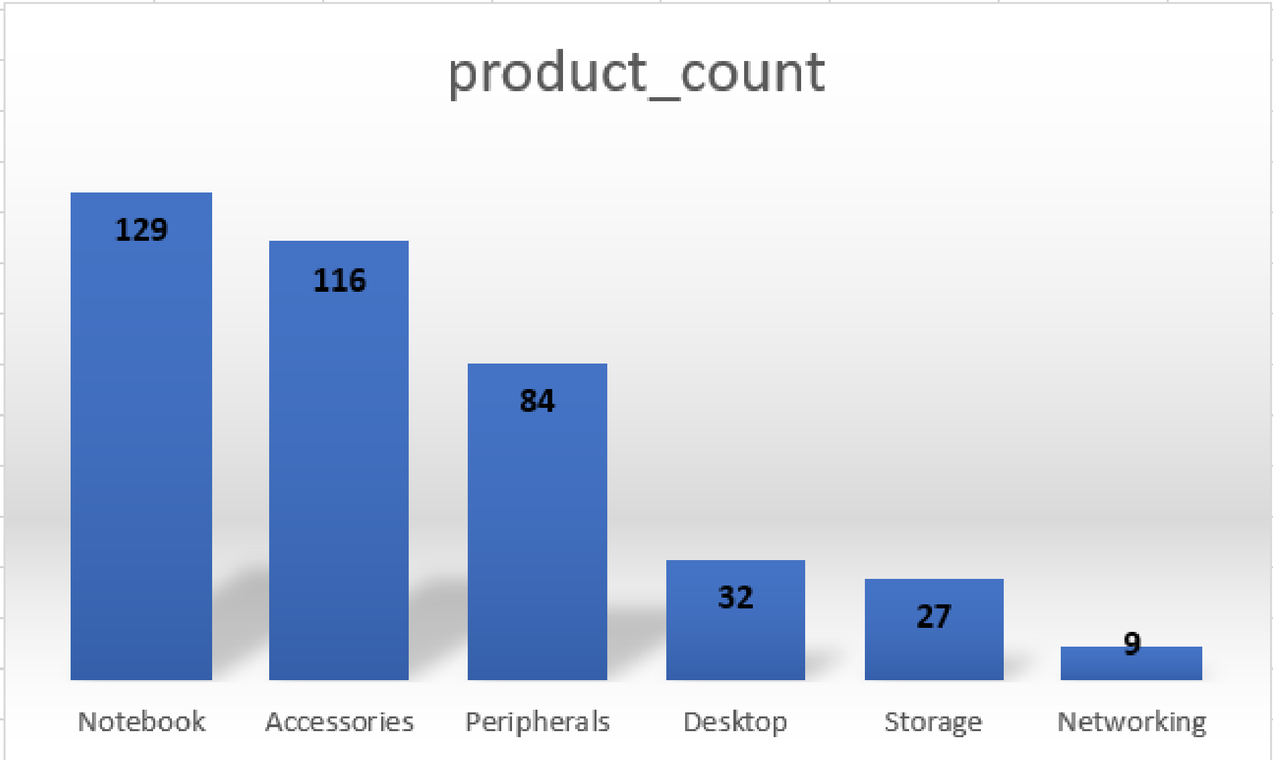
request_3.sql

```sql
SELECT
 segment, COUNT(product_code) as product_count
FROM dim_product
GROUP BY segment
ORDER BY product_count DESC;
```

segment	product_count
Notebook	129
Accessories	116
Peripherals	84
Desktop	32
Storage	27
Networking	9





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Insights

- There are 6 different segments in our data. i.e: Notebook,Accessaries, Peripherals, Desktop, Storage, Networking.
- Out of all the different segments notebooks and accessaries are sold most than other segments.

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Product Count Difference

Request #4

Follow-up: Which segment had the most increase in unique products in 2021 vs 2020? The final output contains these fields,

segment

product_count_2020

product_count_2021

difference

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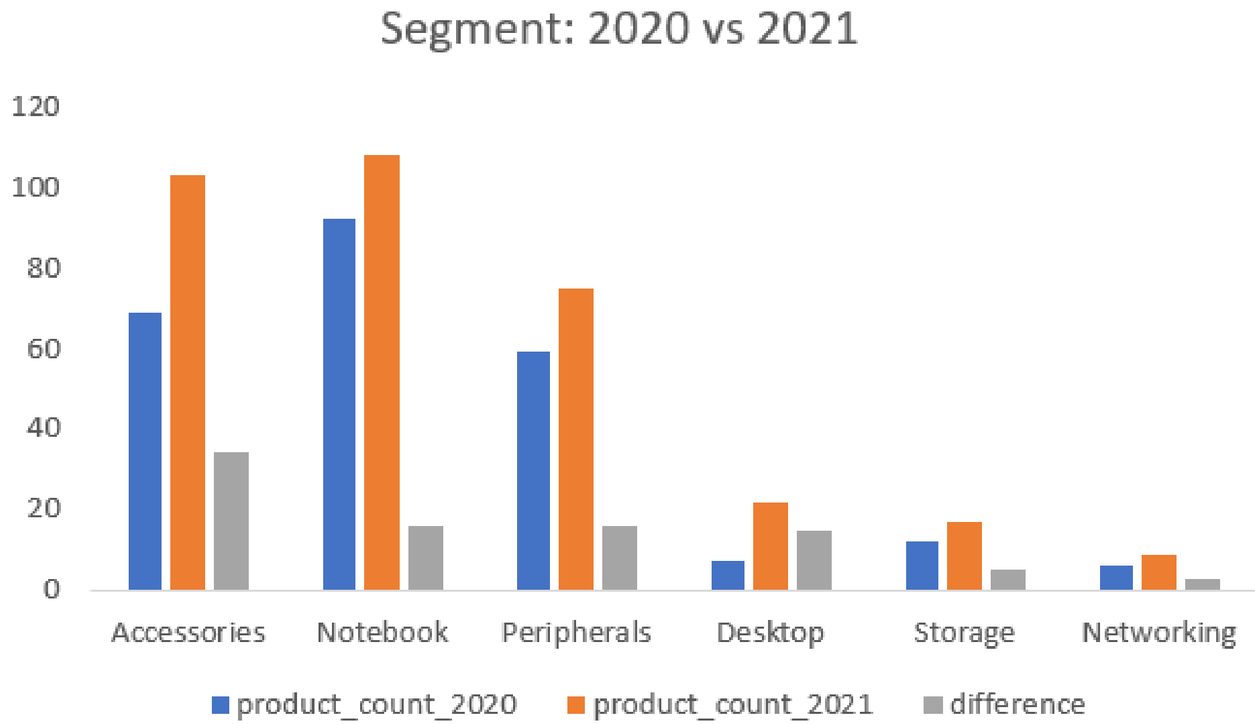
request_4.sql

```sql
WITH temp_table AS (
    SELECT p.segment,s.fiscal_year,
    COUNT(DISTINCT s.product_code) as product_count
    FROM fact_sales_monthly as s
    JOIN dim_product as p ON s.product_code = p.product_code
    GROUP BY p.segment,s.fiscal_year
)

SELECT up_2020.segment,up_2020.product_count as product_count_2020,
up_2021.product_count as product_count_2021,
up_2021.product_count - up_2020.product_count as difference
FROM temp_table as up_2020
JOIN temp_table as up_2021
ON up_2020.segment = up_2021.segment
    AND up_2020.fiscal_year = 2020
    AND up_2021.fiscal_year = 2021
ORDER BY
    difference DESC;
```

segment	product_count_2020	product_count_2	difference
Accessories	69	103	34
Notebook	92	108	16
Peripherals	59	75	16
Desktop	7	22	15
Storage	12	17	5
Networking	6	9	3

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Insights

- Compare to the fy-2020 the product count is less than the fy-2021.
- Accessaries sold more in fy-2021 when compared with other segment categories.
- Networking and Storage segment is performing weak in sales.

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Manufacturing Cost

Request #5

Get the products that have the highest and lowest manufacturing costs. The final output should contain these fields,
product_code
product
manufacturing_cost

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request_5.sql

```sql
SELECT
p.product_code,
p.product,
m.cost_year,
m.manufacturing_cost
FROM dim_product as p
JOIN fact_manufacturing_cost as m on m.product_code = p.product_code
WHERE manufacturing_cost =
(SELECT min(manufacturing_cost) from fact_manufacturing_cost);
```

product_code	product	cost_year	manufacturing_cost
A2118150101	AQ Master wired x1 Ms	2020	0.892

request_5.sql

```sql
SELECT
p.product_code,
p.product,
m.cost_year,
m.manufacturing_cost
FROM dim_product as p
JOIN fact_manufacturing_cost as m on m.product_code = p.product_code
WHERE manufacturing_cost =
(SELECT max(manufacturing_cost) from fact_manufacturing_cost);
```

product_code	product	cost_year	manufacturing_cost
A6120110206	AQ HOME Allin1 Gen 2	2021	240.5364

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Insights

- The lowest manufacturing cost for the product is **AQ Masterwired XQ 1 MS** manufactured in 2020.
- The highest manufacturing cost for the product is **AQ Home Allin 1 Gen 2** manufactured in 2021.

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Average discount Percentage

Request #6

Generate a report which contains the top 5 customers who received an average high pre_invoice_discount_pct for the fiscal year 2021 and in the Indian market. The final output contains these fields,
customer_code
customer
average_discount_percentage

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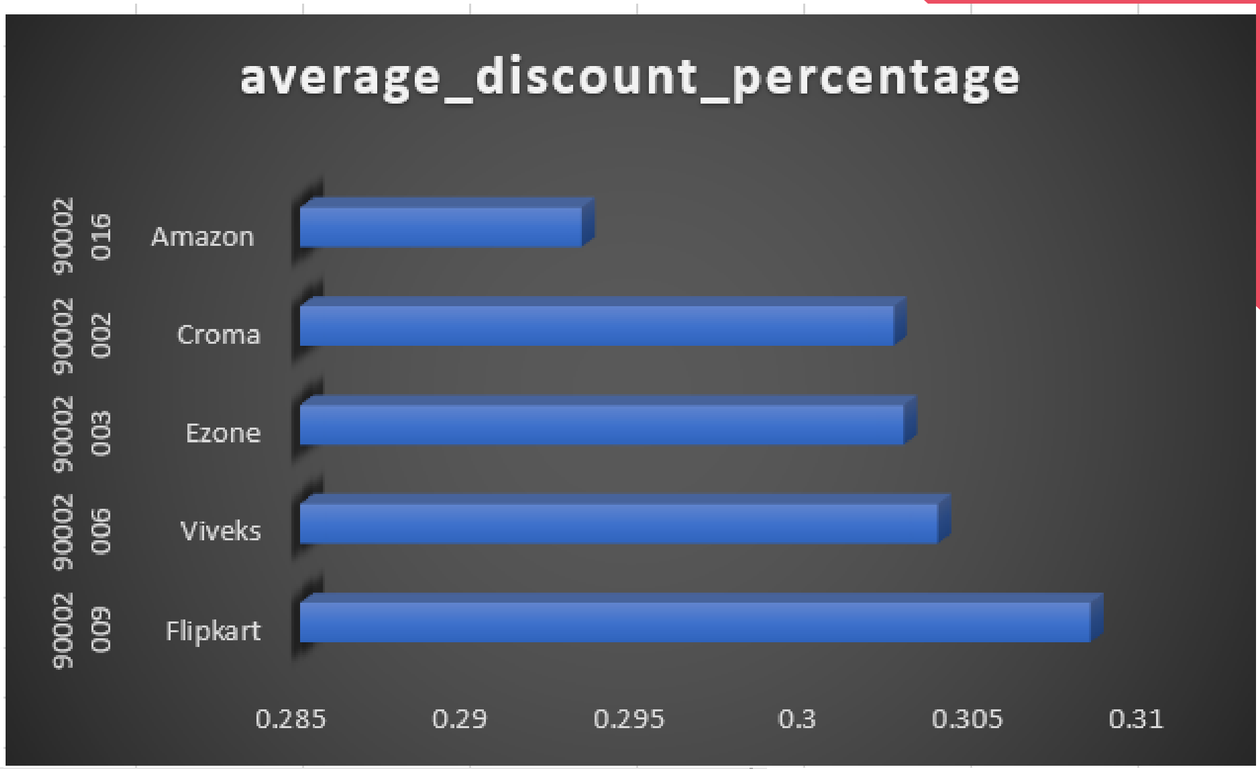
request_6.sql

```sql
SELECT
c.customer_code, c.customer,
AVG(p.pre_invoice_discount_pct) as average_discount_percentage
FROM dim_customer as c
JOIN fact_pre_invoice_deductions
AS p ON p.customer_code = c.customer_code
WHERE p.fiscal_year = 2021 and c.market = "India"
GROUP BY c.customer_code, c.customer
ORDER BY average_discount_percentage DESC
LIMIT 5;
```



customer_	customer	average_discount_percentage
90002009	Flipkart	0.3083
90002006	Viveks	0.3038
90002003	Ezone	0.3028
90002002	Croma	0.3025
90002016	Amazon	0.2933

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Insights

- Flipkart has the highest average discount percentage of 30.83%
- Amazon has the lowest average discount percentage of 29.33%

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Monthly Gross Sales

Request #7

Get the complete report of the Gross sales amount for the customer “Atliq Exclusive” for each month. This analysis helps to get an idea of low and high-performing months and take strategic decisions.
The final report contains these columns:
Month
Year
Gross sales Amount

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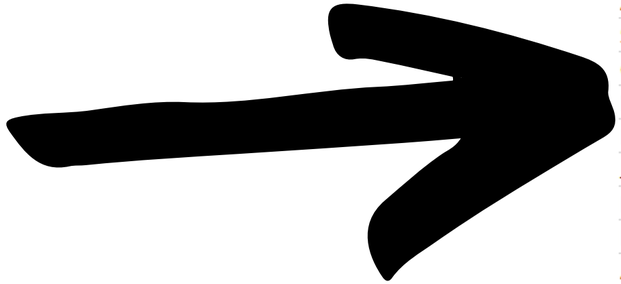
request_7.sql

```sql
WITH temp_table AS (
SELECT customer, MONTHNAME(date) AS months,MONTH(date) AS month_number,
     YEAR(date) AS year,(sold_quantity * gross_price) AS gross_sales
FROM
        fact_sales_monthly s
        JOIN fact_gross_price g ON s.product_code = g.product_code
        JOIN dim_customer c ON s.customer_code = c.customer_code
    WHERE
        customer = 'Atliq exclusive'
)
SELECT months,year,
    CONCAT(ROUND(SUM(gross_sales) / 1000000, 2), 'M') AS gross_sales
FROM
    temp_table
GROUP BY
    year,months,month_number
ORDER BY
    year, month_number;
```

months	year	gross_sales
September	2019	9.09M
October	2019	10.38M
November	2019	15.23M
December	2019	9.76M
January	2020	9.58M
February	2020	8.08M
March	2020	0.77M
April	2020	0.80M
May	2020	1.59M
June	2020	3.43M
July	2020	5.15M
August	2020	5.64M
September	2020	19.53M
October	2020	21.02M
November	2020	32.25M
December	2020	20.41M
January	2021	19.57M
February	2021	15.99M
March	2021	19.15M
April	2021	11.48M
May	2021	19.20M
June	2021	15.46M
July	2021	19.04M
August	2021	11.32M

Insights

- September, October and Novemeber months performed well in the fy-2019, 2020, 2021.
- March and April in fy-2020 has the least gross sales across the data.

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Quartely sold quantity

Request #8

In which quarter of 2020, got the maximum total_sold_quantity? The final output contains these fields sorted by the total_sold_quantity,
Quarter total_sold_quantity

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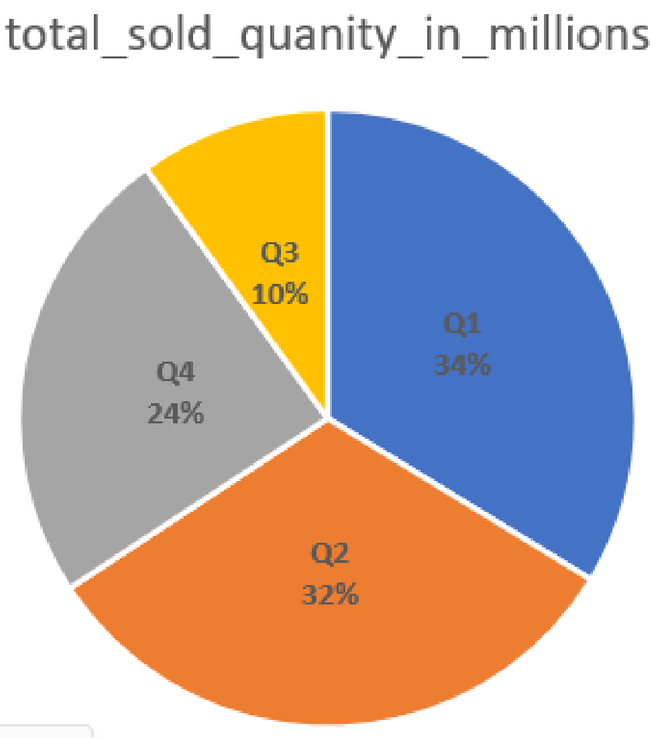
request_8.sql

```sql
WITH temp_table AS (
  SELECT date,
  month(date_add(date,interval 4 month)) AS period,
  fiscal_year,sold_quantity
FROM fact_sales_monthly
)
SELECT CASE
   when period/3 ⩽ 1 then "Q1"
   when period/3 ⩽ 2 and period/3 > 1 then "Q2"
   when period/3 ⩽3 and period/3 > 2 then "Q3"
   when period/3 ⩽4 and period/3 > 3 then "Q4" END quarter,
 round(sum(sold_quantity)/1000000,2) as total_sold_quanity_in_millions
FROM temp_table
WHERE fiscal_year = 2020
GROUP BY quarter
ORDER BY total_sold_quanity_in_millions DESC ;
```



quarter	total_sold_quanity_in_millions
Q1	7.01
Q2	6.65
Q4	5.04
Q3	2.08

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Insights

- Most of the sales are occuring the Q1 and Q2 with 34% and 32% respectively over the year.
- The sales are very less in the Q3 with only 10%

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Channels gross sales.

Request #9

Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution? The final output contains these fields,
channel
gross_sales_mln
percentage

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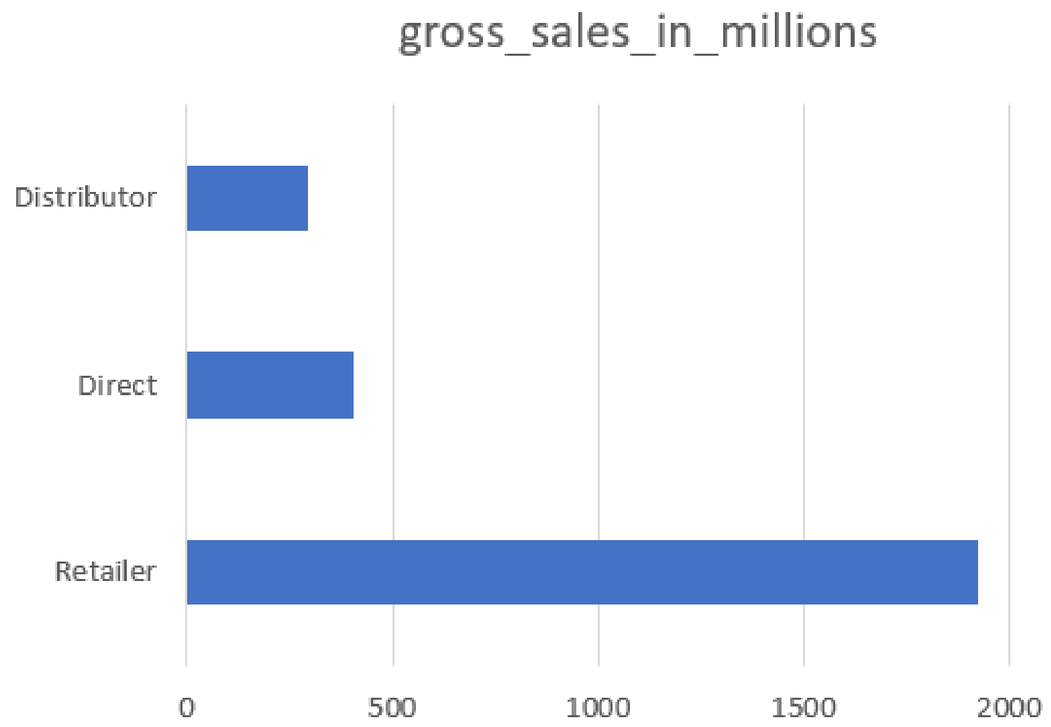
request_9.sql

```sql
WITH temp_table AS (
  SELECT c.channel,sum(s.sold_quantity * g.gross_price) AS total_sales
  FROM
  fact_sales_monthly s
  JOIN fact_gross_price g ON s.product_code = g.product_code
  JOIN dim_customer c ON s.customer_code = c.customer_code
  WHERE s.fiscal_year= 2021
  GROUP BY c.channel
  ORDER BY total_sales DESC
)
SELECT
  channel,
  round(total_sales/1000000,2) AS gross_sales_in_millions,
  round(total_sales/(sum(total_sales) OVER())*100,2) AS percentage
FROM temp_table ;
```

channel	gross_sales_in_millions	percentage
Retailer	1924.17	73.22
Direct	406.69	15.47
Distributor	297.18	11.31

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Insights

- There are 3 major channels in the market . i.e Retailer, Direct and Distributor.
- The Retailer market is very huge when compared with Distributer.

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Product sold quantity

Request #10

Get the Top 3 products in each division that have a high total_sold_quantity in the fiscal_year 2021? The final output contains these fields,
division
product_code
product
total_sold_quantity
rank_order

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request_10.sql

```sql
WITH temp_table AS (
    SELECT division,s.product_code,p.product,p.variant,
    SUM(sold_quantity) AS total_sold_quantity,
    RANK() OVER (PARTITION BY division
        ORDER BY SUM(sold_quantity) DESC) AS rank_order
    FROM fact_sales_monthly s
    JOIN dim_product p ON s.product_code = p.product_code
    WHERE fiscal_year = 2021
    GROUP BY division, s.product_code, p.product, p.variant
)
SELECT
    division,product_code,
    CONCAT(product, '(', variant, ')') AS product,
    total_sold_quantity,
    rank_order
FROM
    temp_table
WHERE
    rank_order IN (1, 2, 3);
```

division	product_code	product	total_sold_quant	rank_order
N & S	A6720160103	AQ Pen Drive 2 IN 1(Premium)	701373	1
N & S	A6818160202	AQ Pen Drive DRC(Plus)	688003	2
N & S	A6819160203	AQ Pen Drive DRC(Premium)	676245	3
P & A	A2319150302	AQ Gamers Ms(Standard 2)	428498	1
P & A	A2520150501	AQ Maxima Ms(Standard 1)	419865	2
P & A	A2520150504	AQ Maxima Ms(Plus 2)	419471	3
PC	A4218110202	AQ Digit(Standard Blue)	17434	1
PC	A4319110306	AQ Velocity(Plus Red)	17280	2
PC	A4218110208	AQ Digit(Premium Misty Green)	17275	3

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